

XV.—*Ornithological Results of the Scottish National Antarctic Expedition.*—III. *On the Birds of the Weddell and adjacent Seas, Antarctic Ocean**. By WM. EAGLE CLARKE, F.R.S.E., F.L.S., The Royal Scottish Museum.

(Plate VII.)

THIS instalment of the ornithological results of the voyage of the 'Scotia' deals with the bird-life observed in the Antarctic Ocean southwards of the 60th parallel of south latitude, and between the meridians of 12° and 45° of west longitude: in other words, the Weddell Sea and the waters fringing it on the north (see map, Pl. VII.). Previous to the voyages of the 'Scotia,' the Weddell Sea had only been visited by Capt. Weddell †, during his marvellously successful cruise in 1823; by Morrell later in the same year; by Sir J. C. Ross, who traversed its waters in 1843; and, lastly, by Otto Nordenskjöld, who penetrated to its western portion in 1902.

Mr. Bruce made two voyages into the Weddell Sea: the first in the late southern summer of 1903, and a second and more extended cruise in the same season of 1904. On both these occasions a high southern latitude was attained, and on the latter the Antarctic Continent within this area was discovered and named "Coats Land," after Mr. James Coats and Major Andrew Coats, in recognition of their public-spirited liberality towards the expedition. During these voyages birds received much attention, and specimens were collected whenever opportunity afforded, chiefly while the 'Scotia' was engaged in taking soundings, or while trawling operations were in progress for the capture of deep-sea organisms. As no landing was effected on *terra firma*, the birds were observed or obtained either amid the

* For Part I. "The Birds of Gough Island," see 'The Ibis,' 1905, pp. 247-268, pl. vi.; Part II. "The Birds of the South Orkney Islands," *op. cit.* 1906, pp. 145-187, pls. iii.-xiii.

† See List of Works consulted on p. 330.

ice-fields or on the open sea. The collection thus formed comprises seventy-four specimens, and is one of great value and interest, for it is not only the first ever made in the region, but adds greatly to our knowledge of the geographical distribution of bird-life in the Antarctic seas.

The first of the above-mentioned voyages commenced on the 4th of February, 1903, on which date the 'Scotia' sailed from Saddle Island, one of the South Orkneys. It was the intention of the explorers to follow a south-easterly course, as Weddell had done in 1823, but the pack-ice, in places from fifteen to twenty feet thick, compelled them to proceed in an easterly direction, hugging, as it were, the 60th degree of south latitude. On February 14th, when some distance off Thule Island, the southernmost of the South Sandwich Group, the edge of the pack was fortunately found to trend towards the much-desired south.

During the run from the South Orkneys towards the Sandwich Islands the following birds were either obtained or came under notice:—Banks's Whale-Bird (*Prion banksi*), Wilson's Petrel (*Oceanites oceanicus*), Cape Petrel (*Daption capensis*), Giant Petrel (*Ossifraga gigantea*), Silver Petrel (*Priocella glacialisoides*), Snowy Petrel (*Pagodroma nivea*), Hutton's Sooty Albatros (*Phæbætria cornicoides*), Ringed Penguin (*Pygoscelis antarctica*), Sheathbill (*Chionis alba*), and several "Mollymauks."

From noon on the 15th of February until the 18th, when the Antarctic Circle was crossed, the 'Scotia' had a fine run southwards in a sea clear of pack-ice. On the 19th, however, the edge of the pack was again encountered, and an E.S.E. course was steered until the 22nd, when, in 70° 25' S. lat. and 17° 12' W. long., or a little short of Ross's furthest south in this region, the ship became firmly beset. Later in the day, however, the 'Scotia' managed to free herself, but the temperature having fallen to 13° F., it was resolved to retreat to the South Orkneys in search of winter-quarters.

The birds observed between the Sandwich Group and the Antarctic Circle were Wilson's Petrels, "Blue Petrels"

(? *Prion* or *Halobæna* *), Giant Petrels, Hutton's Sooty Albatroses, Cape Petrels, Snowy Petrels, Silver Petrels, Antarctic Skuas (*Megalestris antarctica*), Antarctic Petrels (*Thalassæca antarctica*), and Terns (*Sterna* sp.).

Between the Antarctic Circle and the furthest south (lat. 70° 25' S., long. 17° 12' W.), the same species came under notice, with the addition of Emperor and Adélie Penguins (*Aptenodytes forsteri* and *Pygoscelis adeliæ*).

On the return voyage a north-easterly course was steered, the Antarctic Circle was recrossed on March the 11th, and the first southern voyage of the 'Scotia' was completed on the 21st, on which day she reached the South Orkneys.

The only bird worthy of note obtained during the final stages of this cruise was a McCormick's Skua (*Megalestris maccormicki*).

Having spent the winter of 1903 at Laurie Island, the 'Scotia' proceeded to the Falklands and Buenos Aires to refit, and returned to the South Orkneys on February 14th, 1904. On the 22nd, the Expedition bade adieu to the Orkneys and the 'Scotia' commenced her second and most important voyage to the Weddell Sea. In contrast to the preceding season, the sea was almost free from pack-ice and a south-easterly course was possible. At the beginning of March the old track of the previous year was crossed, and a few days afterwards the 'Scotia' broke her southern record of 1903, and that of Ross in 1843. Skirting, more or less, the open pack for 300 miles, the ship met with no obstacle to her progress southward, whereas in 1903 all had been impenetrable ice. On reaching 72° 18' S., 17° 59' W., however, a lofty ice-barrier effectually barred further progress towards the south, and here Coats Land was discovered. This barrier was traced for a distance of 150 miles to the south-west, when, on the 7th of March, the ship was caught in a north-easterly blizzard and became locked in heavy pack-ice. On the gale abating two days

* Both *Prion banksi* and *Halobæna cærulea* appear under the name of "Blue Petrels" in the "Zoological Log," and when specimens were not obtained it is impossible to say which species is intended.

later, it was found that the 'Scotia' had been driven into a bight in the ice-barrier off Coats Land in $74^{\circ} 1' S.$, $22^{\circ} 0' W.$ No open water was in sight, and with the temperature down to zero the pack soon froze up. For several days there was no change, and the lateness of the season, and the possibility of not being liberated, made it imperative that preparations should be made for wintering. On the 13th, however, under the influence of a south-west wind, the pack began to break up and the ship was once more afloat. Off this newly-discovered land Emperor Penguins were abundant, and twenty were captured; while Adélie Penguins, Giant Petrels, McCormick's Skuas, Arctic Terns (*Sterna macrura*), and Snowy and Silver Petrels were swarming all around. The birds previously observed during the voyage, in addition to the species named, were Cape Petrels, Wilson's Petrels, Blue Petrels (*Halobæna cærulea*), Hutton's Sooty Albatroses, and Banks's Whale-Birds, the last-mentioned being only observed north of the Antarctic Circle.

The Antarctic summer was now fast drawing to a close, and the 'Scotia' having narrowly escaped the miseries of wintering in the pack, turned her prow towards the north on the 17th of March, her immediate goal being the remote Gough Island in the middle waters of the South Atlantic Ocean. In the run northwards to the Antarctic Circle, the birds logged were Emperor and Adélie Penguins, Antarctic, Silver, Snowy, Cape, Blue, and Wilson's Petrels, Hutton's Sooty Albatroses, Arctic Terns, and a new Petrel to the fauna of the South Polar Ocean, namely (*Estrelata brevirostris*). The species noted between the Circle and $60^{\circ} S.$ lat., which was crossed in about $12^{\circ} W.$ long., and between March 27th and April 2nd, included most of the species named, the absentees being the two Penguins, the Snowy and Antarctic Petrels, and the Arctic Tern. On the other hand, an additional Petrel, from the description probably *Majaqueus æquinoctialis*, was encountered.

It may be interesting here to notice that the Expedition added no less than four birds, namely *Sterna macrura*,

Phaebetria cornicoides, *Halobæna cærulea*, and *Æstrelata brevirostris*, to the short list of nine species previously known, according to Mr. Howard Saunders in the 'Antarctic Manual,' to have occurred south of the Antarctic Circle.

A specially important ornithological feature of these voyages of the 'Scotia' was the presence in the Polar Sea of a number of species of Petrels far beyond the southern limits of their breeding-areas. This seems to indicate that at the close of the southern summer numbers of Hutton's Sooty Albatroses (*P. cornicoides*), Cape Petrels (*D. copensis*), Giant Petrels (*O. gigantea*), Antarctic Petrels (*T. antarctica*), Silver Petrels (*P. glacialoides*), Blue Petrels (*H. cærulea*), and *Æstrelata brevirostris* cross the Antarctic Circle and sojourn among the polar ice ere they retreat northwards to pass the winter in more genial oceanic resorts. It is possible, however, that some of these visitors to the far south are non-breeding birds, and, if so, they may have spent the entire summer there. The Tubinares are, as is well-known, great wanderers, but these very remarkable southern incursions are, perhaps, to be explained by the extraordinary abundance of food to be found in the waters of the far south in the summer and autumn, which allures some of the birds further and further towards the pole, until the great ice-barrier, which almost girdles the Antarctic Continent, arrests their further progress, since at its base the food-supply entirely ceases. This, too, explains why our familiar Arctic Tern (*Sterna macrura*) passes the southern summer (our northern winter) amid these ever-icy seas.

The species observed between 60° S. lat. and Gough Island (40° 19' S., 9° 44' W.) from April 1st to 21st may be usefully enumerated here with a view to connecting ornithologically the third instalment of the results with the first. These were **Ossifraga gigantea*, *Daption capensis*, *Priocella glacialoides*, **Oceanites oceanicus*, **Phaebetria cornicoides*, **P. fuliginosa* (55° 8' S.), *Diomedea melanophrys*, *Æstrelata brevirostris*, **Æ. mollis* (48° S.), **Cymodroma gallaria* (55° 8' S.), **Priofinus cinereus* (49° 25' S.),

**Majaqueus æquinoctialis* (53° 58' S.), **Prion vittatus*, **Pelecanoides* sp. (52° 33' S.), *Spheniscus magellanicus*, **Catarrhactes chrysocome* (48° 53' S.), **Megalestris antarctica*, and *Sterna vittata*. The birds marked with an asterisk were also observed off Gough Island and as far to the south of that isle as the latitude indicated in brackets, except in the case of species already noted as being seen south of 60°.

Full particulars of the distribution of all the species collected or observed by the expedition south of 60° 0' during the voyages that I have thus briefly described will be found in the systematic portion of this contribution, which is chiefly based upon the information afforded by the Zoological Log of the 'Scotia,' kept by Mr. Wilton, though I am also indebted to Mr. Bruce for extracts from his private diary relating to this portion of the expedition under his leadership.

Mr. Kinnear has again earned my acknowledgments for the aid which he has rendered me in classifying the numerous records.

I shall have occasion to refer to the following works:—

WEDDELL.—A Voyage towards the South Pole, performed in the Years 1822–1824. By JAMES WEDDELL, Master in the Royal Navy. (1825.)

ROSS.—A Voyage of Discovery and Research in the Southern and Antarctic Regions during the Years 1839–43. By Capt. Sir JAMES CLARK ROSS, R.N. Vol. II. (1847.)

SAUNDERS (1).—Catalogue of Birds in the British Museum. Vol. xxv. *Gaviæ*. By HOWARD SAUNDERS. (1896.)

SALVIN.—Catalogue of Birds in the British Museum. Vol. xxv. *Tubinares*. By OSBERT SALVIN. (1896.)

CHUN.—Aus den Tiefen des Weltmeers. Von CARL CHUN. (1900.)

RACOVITZA.—La vie des Animaux et des Plantes dans l'Antarctique. Par EMILE G. RACOVITZA. (1900.)

SAUNDERS (2).—Antarctic Manual for the use of the Expedition of 1901. By HOWARD SAUNDERS. (1901.)

SHARPE.—Report on the Collections of Natural History made in the Antarctic Regions during the Voyage of the 'Southern Cross.' Aves. By R. BOWDLER SHARPE, LL.D. (1902.)

ANDERSON.—Das Höhere Tierleben im Antarktischen Gebiete. Von K. A. ANDERSON. *Wiss. Ergebn. d. Schwedischen Südpolar-Exp. 1901–1903.* Bd. v. Lfg. 2. (1905.)

- NORDENSKJÖLD.—Antarctica, or Two Years amongst the Ice of the South Pole. By Dr. N. OTTO NORDENSKJÖLD and Dr. JOH. GUNNAR ANDERSON. (1905.)
- LÖNNBERG.—Die Vögel der Schwedischen Südpolar-Expedition. Von EINAR LÖNNBERG. Wiss. Ergebn. d. Schwed. Südpolar-Exp. Bd. v. Lfg. 5. (1905.)
- VANHOFFEN.—Bericht über die bei der deutschen Südpolarexpedition beobachteten Vögel. Von Prof. Dr. E. VANHOFFEN. Journ. für Orn. 1905, pp. 500–515.
- BROWN, MOSSMAN, and PIRIE.—The Voyage of the 'Scotia.' By Three of the Staff (1906). An excellent and graphic account of the work of the Scottish National Antarctic Expedition.

APTENODYTES FORSTERI G. R. Gray.

Aptenodytes forsteri Cat. Birds, xxvi. p. 626.

The occurrence of this bird as a visitor to the South Orkneys was considered probable in 1903 ('Ibis,' 1906, p. 166), and the fact has since been fully confirmed by the Argentine naturalists, who, Mr. Mossman informs me, captured two specimens on Laurie Island in March 1905. This establishes a record for the northern range, namely $60^{\circ} 44' S.$, of this species.

On the first Antarctic voyage in the early southern autumn of 1903, this species was not observed until latitude $69^{\circ} 46' S.$ ($20^{\circ} 58' W.$) was reached. Here a male, weighing 64 lbs., was shot on February 21st, whose stomach contained cuttle-beaks, fishes, and three small gneiss pebbles. On the following day an individual was captured on the ice in $70^{\circ} 25' S.$, and was brought on board alive. This bird soon became reconciled to its strange surroundings, and with remarkable equanimity paced up and down the deck of the 'Scotia,' every now and then giving utterance to a musical cry. On the return passage to the South Orkneys for winter-quarters, another male was obtained in $67^{\circ} 10' S.$ ($39^{\circ} W.$), but none were seen further north.

On the second voyage, in 1904, this species was not encountered till $72^{\circ} 18' S.$ ($17^{\circ} 59' W.$) was attained on March 3rd, on which day three examples were seen and secured. In $73^{\circ} 30' S.$ ($21^{\circ} 28' W.$) Emperor Penguins were in abundance on the water, but only one was observed

on the ice, which was captured. In $74^{\circ} 1' \text{ S.}$ (22° W.), while the 'Scotia' was for several days fast in the pack off Coats Land, until March 14th, an extraordinary number of these Penguins were seen on the ice around the ship, and many were captured with a view to providing food for the expedition should it be compelled to winter in the pack. While the ship was thus incarcerated, Piper Kerr played on his pipes to one of the captive Penguins which was tethered on the ice, but it is said that neither rousing marches, lively reels, nor melancholy laments seemed to have any effect on this lethargic and phlegmatic bird: it was absolutely indifferent to them all!

Some of the individuals captured weighed close on 80 lbs., and it was all that a man could do to lead one of them up to the ship. With their beaks they bit fairly hard, while with their long, flipper-like wings they dealt severe blows.

None were seen after the 'Scotia' escaped from the ice and proceeded northwards.

PYGOSCELIS ANTARCTICA (Forster).

Pygoscelis antarctica Cat. Birds, xxvi. p. 634.

Ringed Penguins were abundant in the South Orcadian waters and were seen at sea during the easterly run towards the South Sandwich Group in February 1903. Afterwards, when the 'Scotia' was proceeding southwards, these birds were met with at intervals until latitude $69^{\circ} 39' \text{ S.}$ ($22^{\circ} 58' \text{ W.}$) was reached on February 20th. On the return passage to the Orkneys they were met with in $67^{\circ} 39' \text{ S.}$

For the second voyage there were but few records, but it is said that several individuals were seen by one of the sailors on March 18th (1904) when the 'Scotia' was in latitude $71^{\circ} 22' \text{ S.}$ ($16^{\circ} 34' \text{ W.}$). The only other observation is for April 1st, on which date some were noticed on the water in $60^{\circ} 33' \text{ S.}$ (12° W.)—the last the 'Scotia' naturalists were to see of a bird to our knowledge of which they have added so much.

Pygoscelis adeliæ (Hombr. et Jacq.).

Pygoscelis adeliæ Cat. Birds, xxvi. p. 632.

The Adélie Penguin—another native of the Antarctic Continent—was not observed during the first voyage into the Weddell Sea until the latitude of $69^{\circ} 46' S.$ ($20^{\circ} 58' W.$) was attained on February 21st, 1903, the day on which the expedition made the acquaintance of the Emperor Penguin, which shares with this species the distinction of being the most southerly representatives of its order. On the following day, when the 'Scotia' reached her furthest south ($71^{\circ} 21'$) for the season, the birds were very abundant; and on the return passage to the Orkneys were seen almost daily in considerable numbers. On one occasion some twenty to thirty were observed seated on an iceberg from forty to fifty feet high, to obtain a footing on which others were seen jumping out of the water on to the berg's precipitous slippery sides, and holding on where Mr. Bruce believes no other bird or mammal could. They took advantage of the wash of the sea, but often had to try again and again ere they succeeded in landing on the lowest ledges of the berg.

During the 1904 voyage this bird was not logged until March 6th, when a few examples were noted in $73^{\circ} 30' S.$ ($21^{\circ} 38' W.$). A few more were observed on the northward passage, but not beyond $61^{\circ} 25' S.$ ($12^{\circ} 47' W.$).

Three adults captured on February 23rd, 1903, were still in moult, having only partially assumed their new coats of blue-black tipped with steely blue. The temperature of these specimens was found to be 102° – $103^{\circ} F.$

Oceanites oceanicus (Kuhl).

Oceanites oceanicus Cat. Birds, xxv. p. 353.

After the nesting-season this little Petrel becomes a great wanderer on the face of the ocean. As such it was almost daily to be seen in numbers, both at sea and among the ice, throughout the voyages of the 'Scotia'—being observed as far south as $72^{\circ} 22'$, while northwards it was present in abundance off Gough Island ($40^{\circ} 19' S.$).

It was one of those birds which followed in the wake of

the ship, probably on the look-out for scraps cast overboard from the galley. On February 7th, 1903, in lat. $60^{\circ} 35'$ S. and long. $39^{\circ} 44'$ W., a great number were observed around a dead whale, picking up morsels of fat that fell from the bills of a host of Giant and Cape Petrels, which were regaling themselves to repletion on the blubber of the defunct leviathan. On one occasion "a flock" was observed resting on the water in $61^{\circ} 22'$ (42° W.).

The 'Belgica' obtained it in the pack in 70° S. (87° W.); the 'Southern Cross' found it breeding on Victoria Land; and Dr. Wilson saw it off the Great Ice Barrier in 78° S., some seventy miles from the nearest open water (Voy. of the 'Discovery,' ii. pp. 482-3).

THALASSÆCA ANTARCTICA (Gm.).

Thalassæca antarctica Cat. Birds, xxv. p. 392.

The Antarctic Petrel was first encountered by the Expedition on February 17th, 1903, in latitude $64^{\circ} 18'$ S. ($23^{\circ} 09'$ W.). Afterwards it was much in evidence in the vicinity of and amidst the great polar ice-fields. During the first voyage this bird was seen almost daily, sometimes in flocks, its latitudinal range varying from 62° to 70° S., and its longitudinal from 16° to 44° W.

It was equally frequent during the second voyage, in 1904, and often followed the ship all day. When off Coats Land in $74^{\circ} 1'$ S. no less than twenty were shot on March 14th, while the 'Scotia' was locked in the pack. Just previously to this, namely on March 5th, when in $72^{\circ} 31'$ S., thousands of this species were seen in company with McCormick's Skuas, Giant and Snowy Petrels, and Arctic Terns. On the northward voyage it was not observed beyond $68^{\circ} 26'$ S. ($10^{\circ} 11'$ W.).

As already recorded ('Ibis,' 1906, p. 169), a few came under notice at Laurie Island in the summer of 1903-4, and it was thought not unlikely that the bird was nesting there. A number were also seen near Saddle Island, another of the South Orkney Group, on March 22nd, 1903, in about 60° S., the most northerly point at which this species was observed

during the voyages of the expedition. A number of specimens were obtained in the month of March during the Antarctic voyages of 1903 and 1904, and these vary in their plumage. Some are more or less faded (drab) in colour and abraded in feather, and are, no doubt, unmoulted birds: others are evidently freshly moulted adults or young of the year; in these the head, back, scapulars, lesser wing-coverts, quills, and tip of the tail are slaty black, and the under parts purer white. Specimens in moult are intermediate between these two forms, and make clear the relationships of these phases in plumage as regards adult birds. Some of these moulting birds lack rectrices, their tails being represented by the long under tail-coverts only. The feet in life have the tarsus and outer toe greyish, the other toes and the webs paler and washed with yellow.

PRIOCELLA GLACIALOIDES (Smith).

Priocella glacialisoides Cat. Birds, xxv. p. 393.

The Silver or Silver-grey Petrel was observed during the voyages to and from the Weddell Sea, between the latitudes $44^{\circ} 30'$ and $71^{\circ} 22'$ S., and the meridians of $9^{\circ} 43'$ and $42^{\circ} 30'$ W. The extreme southerly range here indicated has only been exceeded, I believe, in the case of the observations made by Dr. Wilson during the National Expedition under Capt. Scott, when the bird was seen in the Ross Sea (Voy. of the 'Discovery,' ii. p. 481).

This Petrel was first met with on the 9th of February, when the 'Scotia' was skirting the pack-ice in $58^{\circ} 57'$ S. and $33^{\circ} 34'$ W., or about midway between the South Orkney and South Sandwich Groups; but it was not observed beyond $63^{\circ} 54'$ S. on the 1903 voyage. On the second voyage it was noted as high as $71^{\circ} 22'$ S., on March 18th, 1904, when one was seen in company with several other species of Petrel and Arctic Terns.

It does not appear to be an abundant species in the Weddell Sea; but it was observed in numbers during the northward voyage, when latitude 60° S. was reached, and was last seen when the 'Scotia' was nearing Gough Island.

As stated in 'The Ibis' for 1906 (p. 170), it was occasionally seen in the summer of 1903 about the cliffs at Laurie Island, where it was considered probable that a few were nesting. I mentioned (*l. c.*) that its breeding-haunts remained unknown. Since then, however, I have learned that the Swedish Expedition under Nordenskjöld found it nesting at Cape Roquemaurel, on the west coast of Louis Philippe Land (Anderson, *t. c.* p. 43).

A coloured drawing made by the artist to the expedition shews the maxilla and mandible tipped with black, the middle portion of the bill pale flesh-coloured, and the base and nares pale cobalt-blue. The feet are pale flesh-coloured, the webs washed with yellow, and the claws black. The iris is dark brown, and the pupil blue-black.

PAGODROMA NIVEA (Gm.).

Pagodroma nivea Cat. Birds, xxv. p. 419.

The Snowy Petrel being a native of the Antarctic Continent, it is not surprising to find that it was one of the most abundant and most frequently observed species which came under the notice of the Expedition in the Weddell Sea. During both the southern voyages of the 'Scotia,' there was hardly a day on which this beautiful bird was not met with—often in great numbers. It was most abundant in the neighbourhood of the pack, and became less numerous as soon as open water clear of ice was entered.

The extremes of latitude between which this bird was met with during the voyages of the 'Scotia' were from $59^{\circ} 41'$ to $74^{\circ} 1'$ S. (off Coats Land, the *Ultima Thule* of the Expedition). Longitudinally it occurred from $12^{\circ} 49'$ to $43^{\circ} 40'$ W. On the voyage from Coats Land northwards to Gough Island it was not observed beyond $68^{\circ} 32'$ S. ($12^{\circ} 49'$ W.).

The Snowy Petrel was sometimes seen in flocks around the ship, and often followed it all the day long. It was seen to capture fish at or near the surface of the water.

CESTRELATA BREVIROSTRIS (Lesson).

Cestrelata brevirostris Cat. Birds, xxv. p. 409.

This species is new to the avifauna of the Antarctic Ocean, where it was discovered by the Scottish Expedition on March 20th, 1901, in $69^{\circ} 33' S.$ and $15^{\circ} 19' W.$, during the northward voyage from Coats Land towards Gough Island. On that day, while the 'Scotia' was engaged in trawling for the capture of various forms of marine life, Dr. Pirie left the ship in a boat for the purpose of obtaining specimens of birds, a quantity of which, including Terns and various species of Petrels, were in the vicinity. While thus employed he came across numbers of a Petrel that he had not seen before, and succeeded in shooting a male, which on examination I found to belong to this species. Afterwards this 'New Petrel,' as it was logged, was observed on five different days down to March 25th, when it was last seen in $65^{\circ} 58' S.$ and $11^{\circ} 24' W.$

The habitat of this interesting addition to the fauna of the South Polar Seas has hitherto been supposed to be confined, according to Salvin (*op. cit.* p. 410), to the South Atlantic and South Indian Oceans, and he mentions specimens as being in the British Museum Collection from Kerguelen [where it breeds] and Tristan d'Acunha.

Vanhoffen (*t. c.* pp. 506 & 508) records it as seen so far south as 59° during the voyage of the 'Gauss' from Kerguelen towards Kaiser Wilhelm II. Land; and on the return voyage northwards from that part of the Antarctic Continent it was again met with 200 nautical miles south of Heard Island, or in about $57^{\circ} S.$

The feet of the specimen obtained by Dr. Pirie are, according to a coloured drawing made at the time of its capture, purplish grey and the claws black; while the iris is dark brown and the pupil blue-black.

OSSIFRAGA GIGANTEA (Gm.).

Ossifraga gigantea Cat. Birds, xxv. p. 422.

The Giant Petrel was seen everywhere and almost daily during the Antarctic voyages of the 'Scotia,' even in the

highest latitudes reached during each year's cruise, namely 70° and 74° S.; and yet its breeding-grounds are all, so far as we know them, to be found north of the Antarctic Circle.

Perhaps some of these Petrels which frequent the far south in late summer and autumn may be either non-breeding or immature birds which have spent the summer there; while others may proceed south at the close of the nesting-season, as may also young birds. These are points which at present do not admit of satisfactory solution.

Off Coats Land, in $74^{\circ} 1'$ S. and 22° W., from the 9th to the 13th of March, 1904, when the 'Scotia' was fast in the grip of the pack, a number of these birds were seen, as were also many of McCormick's Skuas, Antarctic and Snowy Petrels, and Arctic Terns. White examples are only alluded to in the Zoological Log during these voyages as being seen on four occasions, all north of 61° S.

As regards the food of this bird as a marine species, a great host of individuals, including white examples, were feeding on the carcass of a dead whale in $60^{\circ} 03'$ S. ($39^{\circ} 44'$ W.) on February 7th, 1903, and the stomach of one shot contained crustaceans.

DAPTION CAPENSIS (Linn.).

Daption capensis Cat. Birds, xxv. p. 428.

The "Cape Pigeon" was one of the most abundant species observed by the expedition during its two Antarctic voyages. It was seen almost everywhere, both at sea and amid the ice, as far south as $71^{\circ} 50'$, though it was only found in small numbers in the high latitude mentioned.

The presence of this (with other Petrels) in great numbers in the Weddell Sea, far to the south of its breeding-haunts, in the late summer and in autumn, has already been alluded to (p. 329), and a possible explanation of its remarkable incursions amid the south polar ice, ere it moves northward to reach its accustomed oceanic winter-quarters, has been offered.

All the specimens obtained in the Antarctic Ocean during

these voyages in the autumns of 1903 and 1904 have the dark portions of their plumage of a fresh slate-black tint, instead of the faded brown presented by the examples obtained at the South Orkneys during the breeding-season. This is, with little doubt, attributable to the fact that the birds were either adults recently moulted, or young in their first plumage, or both.

Whenever the 'Scotia' stopped for the purpose of taking soundings, these Petrels settled on the water on the look-out for scraps of food, and so tame were they that specimens were often captured by simply scooping them out of the water by means of a large landing-net. Birds thus taken were sometimes liberated on the ship's deck, where they shewed their entire inability to escape, the 'Scotia' not being long enough to afford them a sufficiently extended run to enable them to rise on the wing: it was the same with the Giant Petrels.

When in pursuit of food at or near the surface, the Cape Petrels were observed to plunge downwards into the water after the manner of Terns.

On February 7th, 1903, in $60^{\circ} 35' S.$, $39^{\circ} 44' W.$, a vast number, along with Giant and Wilson's Petrels, were observed feeding on the floating carcass of a dead whale.

Ross (*l. c.* ii. p. 191) saw this bird off Victoria Land, on January 14th, 1841, in $71^{\circ} 50' S.$, or in precisely the same latitude in which Mr. Bruce made his southernmost observation.

During the voyage of the 'Southern Cross' it does not appear to have been noted beyond $65^{\circ} 3' S.$ (Sharpe, *t. c.* p. 157); but Vanhoffen (*t. c.* p. 507) observed it right down to the winter-quarters of the 'Gauss,' namely to the Antarctic Continent (Kaiser Wilhelm II. Land) in $66^{\circ} 2' S.$, $89^{\circ} 38' E.$ The Swedish Expedition (Anderson, *l. c.* p. 46) also observed it near their southern limit, namely in the pack-ice east of Graham's Land in $64^{\circ} 30' S.$

HALOBÆNA CÆRULEA (Gmelin).

Halobæna cærulea Cat. Birds, xxv. p. 431.

Under the collective name of "Blue Petrels," both this

species and at least one of the Whale-Birds (*Prion*) were confounded by the Scottish explorers—a pardonable error also made long years ago during Cook's voyage in the Antarctic seas, and, no doubt, often since repeated. Fortunately, however, a number of specimens of these "Blue Petrels" were secured, and afford authentic information regarding both this species and *Prion banksi* in the seas visited by the Expedition.

The data accompanying the skins of *H. cærulea*, the Blue Petrel proper, enable me to extend the distribution of this species far to the south of all previous records of a reliable nature. Salvin (*t. c.* p. 431), the monographer of the Petrels, gives its range as being between 40° and 60° S., or practically where Cook left it in the latter half of the 18th century; and it has no place in the bird section of the 'Antarctic Manual.' From the 'Scotia,' specimens were captured as far south in the Weddell Sea as 69° 33' S., and others, believed to be of this species, were observed as high as 71° 28' S. It probably occurs even beyond the limits indicated, for I think there can be little doubt that this was the bird which Weddell met with on February 18th, 1823, a little further to the west, in 73° S., where he tells us (*op. cit.* pp. 35-6) "the sea was literally covered with birds of the Blue Petrel kind." Ross (*t. c.* p. 359) also mentions a "Blue Petrel" as seen in the Weddell Sea in 67° 06' S. and 8° 35' W. Banks's Whale-Bird (*Prion banksi*), the other "Blue Petrel" of the Expedition, was not obtained beyond 66° S., and I am not aware of any reliable record of its occurrence within the Antarctic Circle.

"Blue Petrels" appear very frequently in the Log of the 'Scotia' during the two southern voyages, but *H. cærulea* was not obtained north of 64° 29' S., and the ten specimens in the collection were secured between that latitude and 69° 33' S., and longitudes 12° 49' and 35° 29' W. All but two were obtained south of 68°, and in the month of March (1903 and 1904). On February 25th, 1904, two specimens of this species, and one of *Prion banksi*, were captured in 64° 29' S. and 35° 29' W.

Weddell (*op. cit.* p. 144) mentions the Blue Petrel as occurring at the South Shetlands, but later explorers do not mention *Halobena cœrulea* for that group or for the Antarctic Regions proper. It would seem that this species is local in its far southern range, and is a specially characteristic bird of the Weddell Sea. It was not seen at the South Orkneys during the summer, nor was it encountered at sea in the vicinity of that Archipelago.

In some of the specimens in the collection the white feathers of the forehead shew their dark bases, and thus the front presents a mottled appearance. The bill in freshly killed examples was cobalt-blue, except the nares and culmen, which were black. The feet were cobalt-blue, the webs pale flesh-coloured, the claws black.

PRION BANKSI Gould.

Prion banksi Cat. Birds, xxv. p. 434.

Banks's Whale-Bird (and perhaps others of its genus*), as has already been stated, when treating of *Halobena cœrulea*, was logged during the Antarctic voyages of the 'Scotia' as a "Blue Petrel." Here, however, the specimens collected with such praiseworthy diligence again come to our aid, and enable us not only to distinguish between the two species on important occasions, but also to extend the southern range of this bird from 60° S. (*vide* Salvin, *t. c.* p. 434, and the 'Antarctic Manual') to 66° S.†

The first specimens, a male and female, were procured on February 9th, 1903, when the 'Scotia' was off the edge of the pack-ice in 59° 42' S. and 34° 13' W., or about midway between the South Orkneys and Thule I., the most southerly

* *Prion desolatus* appears ('Antarctic Manual,' p. 231) to reach the edge of the Antarctic Circle, having been obtained by the 'Challenger' at the ice-barrier. It breeds at Kerguelen. This bird was not obtained by the Scottish Expedition.

† In the Liverpool Museum, however, there is a specimen which believed to have been obtained by Dr. J. Hooker off Victoria Land in 70° S. This example is recorded, along with *Ægialitis falklandica*, *Nettion flavirostre*, and *Podiceps calipareus*, as new to Antarctica in the 'Bulletin' of the Museum (ii. p. 48). None of these species have come under the notice of later observers within the Antarctic Circle.

of the Sandwich Archipelago. These were the only examples obtained during the Antarctic voyage of 1903. On the second voyage four (two males and two females) were captured in the Weddell Sea, or its confines, on February 25th and 26th, 1904, in $64^{\circ} 29'$ ($35^{\circ} 29'$ W.) and $65^{\circ} 59'$ S. ($33^{\circ} 06'$ W.).

This species does not appear to have come under the notice of other recent Antarctic explorers, but a species of *Prion* is recorded by Vanhoffen (*t. c.*) as having occurred off Kaiser Wilhelm II. Land, or just without the Antarctic Circle, on March 18th, 1903, and one was also noticed between that part of the Antarctic Continent and Kerguelen I., where *P. desolatus* is known to breed.

The bill and feet of the specimens secured by the Scottish Expedition are described as being bluish grey, and the iris as brown.

PHEBETRIA CORNICOIDES Hutton.

Phæbetria fuliginosa Cat. Birds, xxv. p. 453 ; Chun, *t. c.* pp. 167, 220 ; Voy. of 'Scotia,' pp. 181, 232.

It is a matter for surprise that two such genuinely distinct species as *P. cornicoides* and *P. fuliginosa* should have collectively passed for a considerable number of years under the name of the Sooty Albatros. The 'Scotia' collection of birds has already been the means of calling attention to the claims of Capt. Hutton's so-called variety, described in 1867, to full specific rank. Now there remains the important but at present almost impossible task of unravelling the tangled skein involved in defining the geographical distribution of the two species. Here the 'Scotia' collections again lend a helping hand, for they enable me to say that all the birds obtained and seen in the far south belonged to Hutton's species, and that it was only when the waters of the South Atlantic were approached that Gmelin's *fuliginosa* appeared upon the scene.

Specimens of both birds were collected, and the species under consideration was the only one obtained in the Antarctic Ocean, where it was observed as far south as $69^{\circ} 46'$ S. lat.

During the first Antarctic voyage, in 1903, this bird was noticed on eight occasions between February 14th and March 21st in latitudes varying from $59^{\circ} 33'$ to $69^{\circ} 46'$ S., and in longitudes from $20^{\circ} 58'$ to $27^{\circ} 32'$ W.; and on the second voyage, in 1904, it was logged for south of 60° on ten days between February 23rd and April 1st, in latitudes ranging from $60^{\circ} 30'$ to 67° S., and longitudes between $10^{\circ} 42'$ and $41^{\circ} 55'$ W. On February 25th, when in $64^{\circ} 29'$ S. and $35^{\circ} 29'$ W., six individuals were sailing around the 'Scotia' at the same time. North of 60° it was encountered as far as Gough Island ($40^{\circ} 19'$ S.), as already related ('Ibis,' 1905, pp. 267-268).

Previously to the researches of the 'Scotia' Expedition, this Albatros had not been recorded within the Antarctic Circle, though Ross (*t. c.* p. 359) observed a "Sooty Albatros" in the Weddell Sea in $67^{\circ} 06'$ S. and $8^{\circ} 35'$ W. on March 1st, 1843, which most probably was of this species.

No specimen of *P. fuliginosa* was obtained or observed by the Expedition beyond 58° S., though it is certain that this Albatros does attain to a higher degree of southern latitude. "Sooty Albatroses" were frequently logged during the voyages of the 'Scotia' between the Falklands and the South Orkneys, and are believed to have been *P. cornicoides*, but no specimens were captured.

Having made some incursions into the literature of Antarctic ornithology in the preparation of these papers, perhaps it may be well to allude to these researches so far as they concern *P. cornicoides*.

Captain Hutton told me, in 1905, that this species is the common form in New Zealand, and that it breeds at the Auckland and Antipodes Islands at the end of October; and Lönnerberg in his 'Contributions to the Fauna of South Georgia,' i. p. 71 (1906), mentions it as breeding on cliffs at that island.

Chun (*t. c.* p. 167) informs us that during the voyage of the 'Valdivia,' "*Diomedea fuliginosa*, die aschgrauen Albatrosse mit schwarzlichen Kopfe," was met with about midway between the Cape of Good Hope and Bouvet Island on November 20th, 1898, and (p. 220) that the Smoke-grey

(“rauchgrau”) Albatros was seen almost daily from Bouvet I. onwards. There is no mistake as to the bird meant, for reference is made to an excellent figure of *P. cornicoides*.

Bernachi (‘To the South Polar Regions,’ pp. 316, 317) says that during the month of January, 1900, an Albatros, which he describes as “generally sooty, paler on the shoulders and under surface,” was occasionally seen in the pack-ice.

Vanhoffen (*t. c.*) has a number of references to *Phaebetria* during the voyage of the ‘Gauss,’ as seen between Kerguelen and the Antarctic Circle, but he evidently did not realize or recognise that there were two species of the genus.

Anderson (*op. cit.*) makes no allusion to *Phaebetria* under “Sturmvögel” in his records of the “Höhere Tierleben” of the Swedish Expedition; but Lönnberg (*t. c.* p. 6), in his account of the birds seen during the Relief Expedition, mentions that several examples of *P. cornicoides* were seen between Cape Horn and South Georgia, and that it was last seen in 61° 42' S. and 57° 35' W.

No Sooty Albatros was obtained by the ‘Southern Cross’ Expedition, though, as I have said, Bernachi saw this bird; nor does Dr. Racovitza (*t. c.*) mention either species in his account of the animal life observed during the voyage of the ‘Belgica.’

DIOMEDEA EXULANS Linn.

Diomedea exulans Cat. Birds, xxv. p. 441.

There is only one record for this species, namely, of a bird seen on March 20th, 1903, when the ‘Scotia’ was in 61° S. and 43° 20' W., southward of the Orkneys.

? “THALASSOGERON CHLORORHYNCHUS.”

The only “Mollymauk” seen, and attributed to this species, was logged on February 6th, 1903, when the ship was proceeding eastwards from the South Orkneys and was a good way off the edge of the pack-ice. This was in 60° 10' S. and 42° 35' W.

STERNA MACRURA Naum.

Sterna macrura Cat. Birds, xxv. p. 62.

Sterna hirundinacea Bruce & Wilton, Scot. Geogr. Mag. 1904, p. 128 ; Pirie & Brown, op. cit. 1905, p. 26.

In the 'Antarctic Manual' (p. 233) Mr. Saunders tells us that there is ample evidence that Terns are found in large numbers in the South Polar regions, and even within the Antarctic Circle, and that Webster found Terns at the South Shetlands, whence the Dundee whalers brought back specimens which were referable to the well-known South-American species *Sterna hirundinacea*. Mr. Saunders then expresses the opinion that it may be reasonably assumed that all the Terns found southwards of America are of this form, and this is quite correct so far as the breeding species are concerned. No Tern is, however, known to breed within the Antarctic Circle, nor have, I believe, any specimens hitherto been *obtained* to the south of 66°.

When the 'Scotia' sailed from the South Orkneys she left *Sterna hirundinacea* behind her. Other Terns were met with, often in considerable numbers, and specimens were fortunately obtained in widely scattered portions of the Weddell Sea. These, strange to say, I found to belong to the most northern representative of their genus, namely, to *Sterna macrura*, the Arctic Tern! Thus this familiar bird to British ornithologists would seem to have the most extensive latitudinal range to be found among vertebrate animals, since it is now known to occur from 82° N. to 74° 1' S. It was doubtless the species seen by McCormick in 76° 52' S. in Ross's Sea, off Victoria Land, in the forties of the last century, and also the bird noted by him in the ice between 65° and 66° S. and 158° W.

During the Antarctic voyages of the 'Scotia' Terns frequently came under notice, and specimens of *Sterna macrura* were obtained between 64° 29' and 72° 18' S. latitude and from 12° 49' to 35° 29' W. longitude. They were often observed in considerable numbers, and are logged for March 5th, 1904, as being seen in thousands in 72° 31' S. ; while from the 9th to the 13th of the same month,

when off Coats Land, in $74^{\circ} 1' S.$, $22^{\circ} 0' W.$, many were seen along with McCormick's Skuas, Giant, Antarctic, and Snowy Petrels, when the 'Scotia' was locked in the pack.

It seems very remarkable that the far-off ice-fields of the South Polar Ocean should be visited during the northern winter season by this boreal species. That it is only a winter visitor does not admit of doubt, for the bird certainly does not breed there; nor is any other Tern, so far as we know, a native of the Antarctic Continent. During the southern summer (the northern winter) there is an extraordinary abundance of marine life, especially of surface-swimming crustaceans, and so this elegant bird is tempted to seek retreats which can otherwise only be regarded, even in summer, as inhospitable in the extreme.

The finding of this Tern in the seas off the South Polar Continent must be regarded as one of the most important ornithological discoveries made by the Expedition, for, as has already been stated, no Terns appear to have been previously captured within seas girdled by the Antarctic Circle.

The 'Scotia' collections include some interesting specimens. An adult female obtained on March 23rd, 1904, in $68^{\circ} 32' S.$ and $12^{\circ} 49' W.$, has already assumed full breeding-plumage, and shews no signs of moulting. Another (a male) is assuming its summer hood, leaving the head a mixture of black-and-white feathers; this specimen still retains the dusky upper wing-coverts of youth. In addition to gaining the black head for the first time, it exhibits further evidence of moulting, inasmuch as neither the primaries nor the rectrices are quite fully grown, the first primary being still shorter than the second by about half an inch. I am inclined to think that we have here a bird about twenty-one months old.

The series also includes two immature examples in the plumage known as the *S. portlandica* stage. These have the forehead and crown nearly white, the rest of the head blackish, the lesser wing-coverts conspicuously dark, and the bill and feet black. They are in deep moult so far as

their primary-quills and tail-feathers are concerned, but apparently not otherwise. Some of their primaries are only three inches long.

The 'Gauss' obtained a Tern off Kaiser Wilhelm II. Land, in 66° S., 89° 38' E., on February 18th, 1903, which Reichenow (Orn. Monatsber. xii. p. 47) described as a new subspecies of the Arctic Tern under the name of *Sterna macrura antistrophe*. This is said to be "very like *S. macrura*, but with the bill darker, not cinnabar or poppy-red, but carmine at the base and blackish towards the tip; lower edge of mandible longer, 21-22 mm., in *macrura* only 16-19 mm. Feet not yellowish red to cinnabar-red, but dusky carmine-red, webs blackish. Tarsus somewhat longer, 15-17 mm." If described from skins, that fact might account for the subtle differences in colour, or if such differences really exist they might be due to the season (the winter for *S. macrura*). The 'Scotia' specimens do not exhibit the peculiarities attributed to this subspecific form, except that one of them agrees with it so far as the dimensions of the mandible and tarsus are concerned.

[GULLS.

No Gulls were observed during the Antarctic voyages of the 'Scotia,' except *Larus dominicanus* in the vicinity of the South Orkneys. In the 'Antarctic Manual' (p. 232) it is stated that this Gull was obtained in 64° 18' S., and that a specimen of *Larus scoresbyi*, also in the British Museum, was obtained in the vicinity of the South Shetlands in 64° 55' S. Mr. Bruce, who was naturalist on the 'Balena,' from which vessel the birds in question were obtained, tells me that these examples were undoubtedly captured at the Falkland Islands and that they were skinned by him.]

MEGALESTRIS MACCORMICKI Saunders.

Megalestris maccormicki Cat. Birds, xxv. p. 321.

Megalestris antarctica Pirie & Brown, Scot. Geogr. Mag. 1905, p. 26.

This species was not distinguished from the Antarctic Skua (*M. antarctica*) during the active work of the Expedition,

and hence it is only possible to discriminate with certainty between the two species by reference to the specimens obtained. No doubt, however, all the Skuas seen south of the Antarctic Circle belonged to the species named after Dr. McCormick.

There are only two skins of this Skua in the collection brought home by the 'Scotia.' The first of these, an adult, was procured on March 10th, 1903, in $66^{\circ} 40'$ S. and $40^{\circ} 35'$ W., or the lowest latitude in which this species has, I believe, been obtained, except the example alluded to by me ('Ibis,' 1906, p. 182) as captured at the South Orkneys by the Argentine observers in 1904.

The second example, an adult male, was shot alongside the ship on March 9th, 1904, in 74° S. and 22° W. The 'Scotia' was then fast in the pack and about two miles off the Great Ice Barrier at Coats Land. Many of these birds were then present, as were also numerous Giant and Snowy Petrels and Arctic Terns (*Sterna macrura*).

The Antarctic Skua (*M. antarctica*) did not occur with certainty beyond $62^{\circ} 49'$ S. ($38^{\circ} 12'$ W.).

CHIONIS ALBA (Gmelin).

Chionis alba Cat. Birds, xxiv. p. 710.

This bird, the only one found in the regions treated of that may be regarded as a terrestrial or, to speak more correctly, a semiterrestrial species, was several times observed at sea during the first voyage of the 'Scotia.' It does not, however, penetrate into the Weddell Sea, but was met with when the ship was running eastwards from the South Orkneys towards the Sandwich Group in the late summer of 1903.

During this voyage the White Sheathbill was observed on three occasions. First, on February 6th, in lat. $60^{\circ} 10'$ S. ($42^{\circ} 35'$ W.), when the 'Scotia' was a good way off the edge of the ice. Here this species, along with Banks's Whale-Bird, Cape, Wilson's, and Snowy Petrels, followed in the wake of the ship during the day. Again, on February 8th, in $59^{\circ} 44'$ S. ($36^{\circ} 40'$ W.), or about midway between the Orkney and Sandwich Groups and 300 miles from land,

Sheathbills were observed along with the birds already mentioned. Finally, it was noted at sea to the southward of the Orkneys on March 21st in about 61° S.—its furthest south.

In the Liverpool Museum (Bull. Liverpool Mus. ii. p. 48) there is a specimen of this bird which is said to have been shot on the Antarctic Continent in 78° S. by Dr. Gunn, who, strange to say, was afterwards proved never to have been there! (see 'Ibis,' 1895, p. 165, and 'Antarctic Manual,' p. 234, footnote).

XVI.—Notices of recent Ornithological Publications.

[Continued from p. 214.]

26. *Angelini on a new Synallaxine Bird.*

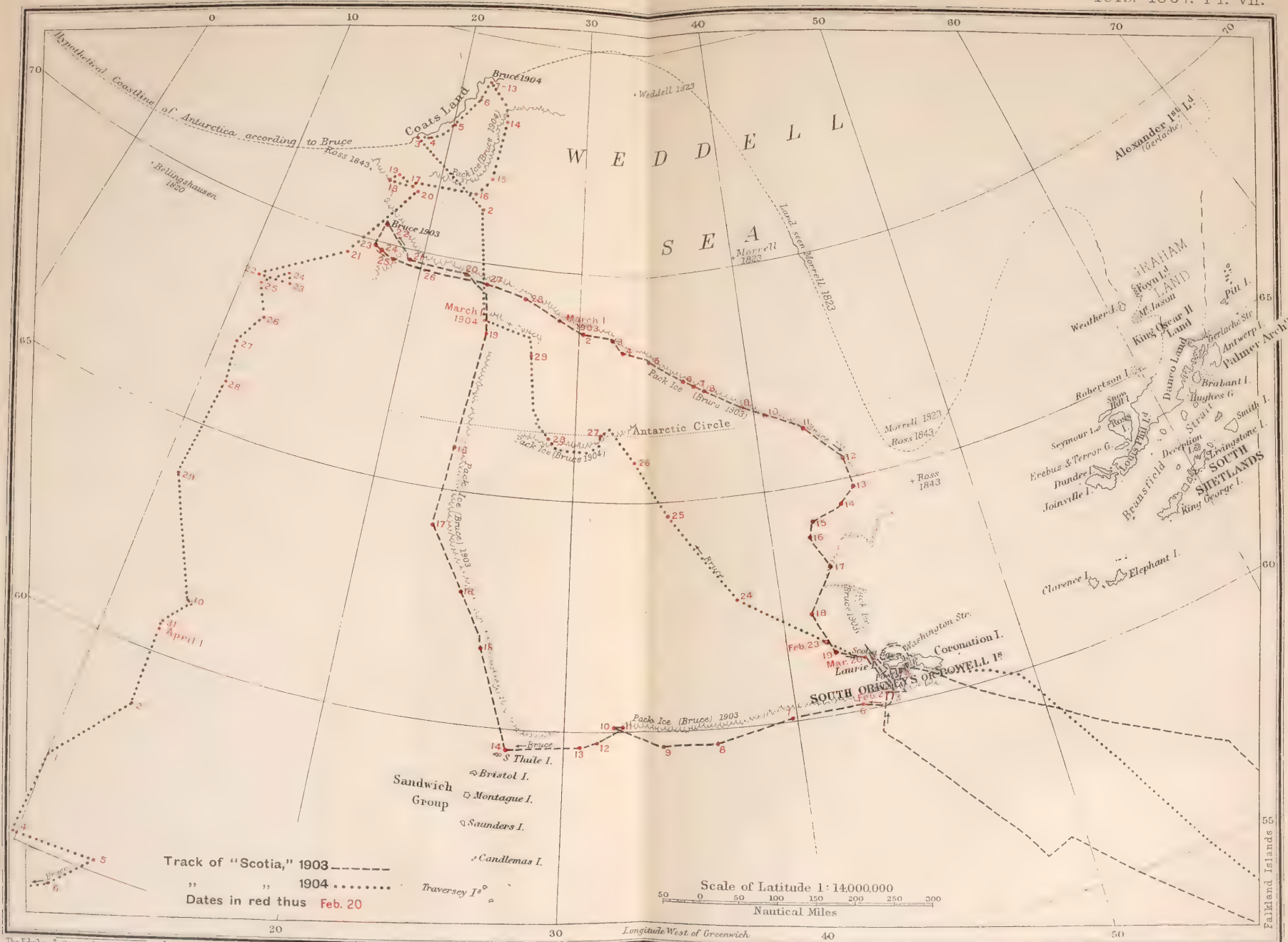
[*Aphrastura fulva*, nuova specie di Passeraceo appartenente ai Dendrocolaptidi Synallaxini. Prof. Giovanni Angelini. Boll. Soc. Zool. Ital. (2) vi. p. 227 (1905).]

Aphrastura fulva is based upon two specimens obtained at Aneud, in Chile, in 1884, now in the Zoological Museum of the University of Rome. It is apparently nearly allied to *A. spinicauda*. *Aphrastura* is a new name for *Oxyurus*, proposed by Oberholser (*cf.* Sharpe, Hand-l. iii. p. 51).

27. 'The Avicultural Magazine.'

[Avicultural Magazine. The Journal of the Avicultural Society. New Series. Vol. v. Nos. 2-4. London: December 1906 to February 1907.]

In these three numbers of the 'Avicultural Magazine' we once more find items of considerable interest. Several species are recorded as having bred in captivity for the first time in Britain, among them the Pine-Grosbeak, the Jackal-Buzzard, and the White-eared Conure. They are reported by Mr. W. H. St. Quintin, Mr. J. H. Gurney, and Mr. E. J. Brook respectively. Mrs. Johnstone has also successfully reared a young specimen of Fraser's Touraco; and it is needless to say that in all these cases we find valuable details given in respect to plumage, habits, and so forth.



TRACK OF THE "SCOTIA" IN THE WEDDELL AND ADJACENT SEAS, 1903-1904

By WILLIAM S. BRUCE, F.R.S.E.